

**CLAIMS**

1. A method of providing illumination for a household product, comprising:  
providing a light system under the control of a processor for providing  
5 illumination of a selected color; and  
disposing the illumination system in proximity to the household product to light a  
feature of the household product.
2. A method of claim 1, wherein the feature of the household product is a container.
- 10 3. A method of claim 2, wherein the container is a spray container.
4. A method of claim 2, wherein the light systems are disposed in at least one of the  
bottom of the container, the neck of the container, the interior of the container, the top of  
15 the container, and the nozzle of the container.
5. A method of claim 2, wherein the container contains a fluid.
6. A method of claim 5, wherein the fluid is selected from the group consisting of  
20 water, ammonia, bleach, window cleaner, insect repellent, insect killer, lotion, soap,  
liquid soap, kitchen cleaner, bathroom cleaner, shaving gel, cleaning fluid, lighter fluid,  
furniture polish, wood treatment, paint, primer, drain cleaner, disinfectant, room  
deodorizer, carpet deodorizer, room scent, perfume, cologne, shaving foam, toilet  
cleaner, aerosol, skin care fluid, suntan lotion, shampoo, surface cleaner, and liquid wax.
- 25 7. A method of claim 5, wherein the light system changes the color of the fluid in  
response to the processor.
8. A method of claim 5, wherein the container is a spray container, and wherein the  
30 light system illuminates the spray of fluid coming from the container.

9. A method of claim 8, wherein the light system is configured to produce a rainbow effect on the spray.
- 5 10. A method of claim 8, wherein the light system changes the color of the spray in response to the processor.
11. A method of claim 2, wherein the container is an aerosol can.
- 10 12. A method of claim 1, wherein the household product is selected from the group consisting of a pencil, a pen, a fork, a knife, a spoon, a kitchen utensil, a whisk, a broom, a bottle, a glass, a mug, a coffee maker, a toothpaste tube, a dispenser, a shampoo bottle, a soap holder, a razor, an electric razor, a hair dryer, a picture frame, a marker, a jar, a makeup facility, a perfume dispenser, a brush, a lipstick, and a candle.
- 15 13. A method of claim 12, wherein the processor changes light to indicate data related to the product.
14. A method of claim 13, wherein the data relates to the freshness of the product.
- 20 15. A method of claim 13, wherein the data relates to the efficacy of the product.
16. A method of claim 1, wherein the processor is responsive to a network.
- 25 17. A method of claim 1, wherein the processor responds to data directed to an address.
18. A method of claim 1, wherein the processor is responsive to a sensor.

19. A method of claim 1, wherein the color is a color temperature of white illumination.

20. A method of claim 1, wherein the household product further comprises an optical  
5 facility for operating on light emitted from the lighting system.

21. A method of claim 20, wherein the optical facility is selected from the group consisting of a lens, a mirror, a liquid lens, a spinning mirror, a fresnel lens, a convex lens, a concave lens, a fiber optic, and a light pipe.  
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22. A system for providing illumination for a household product, comprising:  
a light system under the control of a processor for providing illumination of a selected color; and  
a household product in proximity to the light system, so that the light system  
15 lights a feature of the household product.

23. A system of claim 22, wherein the feature of the household product is a container.

20 24. A system of claim 23, wherein the container is a spray container.

25. A system of claim 24, wherein the light systems are disposed in at least one of the bottom of the container, the neck of the container, the interior of the container, the top of the container, and the nozzle of the container.  
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26. A system of claim 23, wherein the container contains a fluid.

27. A system of claim 26, wherein the fluid is selected from the group consisting of water, ammonia, bleach, window cleaner, insect repellent, insect killer, lotion, soap,  
30 liquid soap, kitchen cleaner, bathroom cleaner, shaving gel, cleaning fluid, lighter fluid,

furniture polish, wood treatment, paint, primer, drain cleaner, disinfectant, room deodorizer, carpet deodorizer, room scent, perfume, cologne, shaving foam, toilet cleaner, aerosol, skin care fluid, suntan lotion, shampoo, surface cleaner, and liquid wax.

5     28.     A system of claim 26, wherein the light system changes the color of the fluid in response to the processor.

29.     A system of claim 26, wherein the container is a spray container, and wherein the light system illuminates the spray of fluid coming from the container.

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30.     A system of claim 29, wherein the light system is configured to produce a rainbow effect on the spray.

31.     A system of claim 29, wherein the light system changes the color of the spray in  
15     response to the processor.

32.     A system of claim 23, wherein the container is an aerosol can.

33.     A system of claim 22, wherein the household product is selected from the group  
20     consisting of a pencil, a pen, a fork, a knife, a spoon, a kitchen utensil, a whisk, a broom, a bottle, a glass, a mug, a coffee maker, a toothpaste tube, a dispenser, a shampoo bottle, a soap holder, a razor, an electric razor, a hair dryer, a picture frame, a marker, a jar, a makeup facility, a perfume dispenser, a brush, a lipstick, and a candle.

25     34.     A system of claim 33, wherein the processor changes light to indicate data related to the product.

35.     A system of claim 34, wherein the data relates to the freshness of the product.

30     36.     A system of claim 35, wherein the data relates to the efficacy of the product.

37. A system of claim 22, wherein the processor is responsive to a network.
38. A system of claim 22, wherein the processor responds to data directed to an  
5 address.
39. A system of claim 22, wherein the processor is responsive to a sensor.
40. A system of claim 22, wherein the color is a color temperature of white  
10 illumination.
41. A system of claim 22, wherein the household product further comprises an optical facility for operating on light emitted from the lighting system.
- 15 42. A system of claim 41, wherein the optical facility is selected from the group consisting of a lens, a mirror, a liquid lens, a spinning mirror, a fresnel lens, a convex lens, a concave lens, a fiber optic, and a light pipe.
43. A method of providing insect control, comprising:  
20 providing a light system with a plurality of LEDs and a processor for controlling a color of light from the LEDs; and  
providing an insect control facility in connection with the light system.
44. A method of claim 43, wherein the insect control facility comprises at least one  
25 of a roach motel, a flypaper, a mosquito net, a tiki torch, a mosquito coil, a bug zapper, a deck light, and a pool light.
45. A method of claim 43, wherein the processor is used to control the light system to produce light of a selected frequency.

46. A method of claim 43, wherein the frequency is a color temperature of white light.

47. A method of claim 43, wherein the frequency is designed to attract insects of a  
5 selected type.

48. A method of claim 43, wherein the frequency is designed to repel insects of a selected type.

10 49. A method of claim 43, wherein the insect control facility is configured a wand that contains the light system and that sprays insect spray.

50. A system for providing insect control, comprising:  
a light system with a plurality of LEDs and a processor for controlling a color of  
15 light from the LEDs; and  
an insect control facility in connection with the light system.

51. A system of claim 50, wherein the insect control facility comprises at least one of  
a roach motel, a flypaper, a mosquito net, a tiki torch, a mosquito coil, a bug zapper, a  
20 deck light, and a pool light.

52. A system of claim 50, wherein the processor is used to control the light system to produce light of a selected frequency.

25 53. A system of claim 50, wherein the frequency is a color temperature of white light.

54. A system of claim 50, wherein the frequency is designed to attract insects of a selected type.

55. A system of claim 50, wherein the frequency is designed to repel insects of a selected type.

56. A system of claim 50, wherein the insect control facility is configured a wand  
5 that contains the light system and that sprays insect spray.

57. A method of providing illumination for a toilet, comprising:  
providing a light system with a plurality of LEDs and a processor for controlling  
a color of light from the LEDs; and  
10 disposing the light system in connection with a toilet.

58. A method of claim 57, wherein disposing the light system comprises disposing it  
on the seat of the toilet.

15 59. A method of claim 57, wherein disposing the light system comprises disposing it  
in the toilet bowl.

60. A method of claim 57, wherein disposing the light system comprises disposing it  
in a rack above the toilet bowl.  
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61. A method of claim 57, wherein disposing the light system comprises disposing it  
in connection with an odor control facility.

62. A system for providing illumination for a toilet, comprising:  
25 a light system with a plurality of LEDs and a processor for controlling a color of  
light from the LEDs; and  
a toilet, wherein the light system is disposed to illuminate a portion of the toilet.

63. A system of claim 63, wherein the light system is disposed on the seat of the  
30 toilet.

64. A system of claim 63, wherein the light system is disposed in the toilet bowl.
65. A system of claim 63, wherein the light system is disposed in a rack above the  
5 toilet bowl.
66. A system of claim 63, wherein the light system is disposed in connection with an odor control facility.
- 10 67. A method of providing illumination for an appliance, comprising:  
providing a light system with a plurality of LEDs and a processor for controlling  
a color of light from the LEDs; and  
disposing the light system in connection with an appliance.
- 15 68. A method of claim 67, wherein the appliance is selected from the group  
consisting of a toilet, a faucet, a shower, a tub, a sink, an appliance, a refrigerator, an  
oven, a microwave, a counter, a drawer, a cabinet, a floor, a ceiling, a wall, a chair, a  
desk, a table, a washer, a dryer, a mixer, a blender, and a toaster.
- 20 69. A method of claim 68, wherein the light system responds to a sensor associated  
with the appliance.
70. A method of claim 69, wherein the sensor is a heat sensor and the light  
illuminates to indicate that the appliance is hot.
- 25 71. A system for providing illumination for an appliance, comprising:  
a light system with a plurality of LEDs and a processor for controlling a color of  
light from the LEDs; and  
an appliance in connection with which the light system provides illumination for  
30 part of the appliance.



72. A system of claim 71, wherein the appliance is selected from the group consisting of a toilet, a faucet, a shower, a tub, a sink, an appliance, a refrigerator, an oven, a microwave, a counter, a drawer, a cabinet, a floor, a ceiling, a wall, a chair, a desk, a  
5 table, a washer, a dryer, a mixer, a blender, and a toaster.

73. A system of claim 72, wherein the light system responds to a sensor associated with the appliance.

10 74. A system of claim 73, wherein the sensor is a heat sensor and the light illuminates to indicate that the appliance is hot.

75. A method of providing illumination for a toothbrush, comprising:  
providing a light system with a plurality of LEDs and a processor for controlling  
15 a color of light from the LEDs; and  
disposing the light system in connection with a toothbrush.

76. A method of claim 75, wherein the toothbrush is provided with a light-transmissive material.

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77. A system for illumination for a toothbrush, comprising:  
a toothbrush, and  
a light system with a plurality of LEDs and a processor for controlling a color of  
light from the LEDs to light the toothbrush.

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78. A system of claim 77, wherein the toothbrush is made of a light-transmissive material.

79. A method of providing a candle, comprising:

providing a light system with a plurality of LEDs and a processor for controlling a color of light from the LEDs;

shaping the light system to fit a candle; and

providing a removable base for the candle, so that the candle produces color-  
5 changing effects.

80. A method of claim 79, wherein the color changing effect is changing a color temperature of white illumination.

10 81. A candle, comprising:

a light system with a plurality of LEDs and a processor for controlling a color of light from the LEDs shaped to fit a candle; and

a removable base for the candle, so that the candle produces color-changing effects.

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82. A candle of claim 81, wherein the color changing effect is changing a color temperature of white illumination.

83. A method of packaging merchandise, comprising:

20 providing a light system with a plurality of LEDs and a processor for controlling a color of light from the LEDs; and

disposing the light system in connection with packaging for an item of merchandise.

25 84. A method of claim 83, wherein the packaging is selected from the group consisting of a can, a container, a box, a package, and a shrinkwrap package.

85. A method of claim 83, wherein the item of merchandise is selected from the group consisting of a household cleaner, a wax, a shampoo, a soap, a razor, a toothbrush,  
30 a light bulb and a skin care product.

86. A packaging system for merchandise, comprising:  
a light system with a plurality of LEDs and a processor for controlling a color of light from the LEDs; and  
5 packaging for an item of merchandise, wherein the light system lights a portion of the packaging.
87. A system of claim 86, wherein the packaging is selected from the group consisting of a can, a container, a box, a package, and a shrinkwrap package.  
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88. A system of claim 86, wherein the item of merchandise is selected from the group consisting of a household cleaner, a wax, a shampoo, a soap, a razor, a toothbrush, a light bulb and a skin care product.
- 15 89. A method of providing illumination for a razor, comprising:  
providing a light system with a plurality of LEDs and a processor for controlling a color of light from the LEDs; and  
disposing the light system in connection with the razor.
- 20 90. A method of claim 89, wherein the razor is provided with a light-transmissive material.
91. An illuminated razor, comprising:  
a razor; and  
25 a light system with a plurality of LEDs and a processor for controlling a color of light from the LEDs to light a portion of the razor.
92. A razor of claim 91, wherein the razor is made of a light-transmissive material.
- 30 93. A method of providing illumination for a broom, comprising:

providing a light system with a plurality of LEDs and a processor for controlling a color of light from the LEDs; and  
disposing the light system in connection with the broom.

5 94. A method of claim 93, wherein the broom is provided with a light-transmissive material.

95. An illuminated broom, comprising:  
a broom; and  
10 a light system with a plurality of LEDs and a processor for controlling a color of light from the LEDs to light a portion of the broom.

96. A broom of claim 95, wherein the broom is made of a light-transmissive material.

15 97. A method of providing illumination for a showerhead, comprising:  
providing a light system with a plurality of LEDs and a processor for controlling a color of light from the LEDs; and  
disposing the light system in connection with the showerhead.

20 98. A method of claim 89, wherein the showerhead is provided with a light-transmissive material.

99. An illuminated showerhead, comprising:  
a showerhead; and  
25 a light system with a plurality of LEDs and a processor for controlling a color of light from the LEDs to light at least one of a portion of the showerhead and water coming from the showerhead.

100. A showerhead of claim 91, wherein the showerhead is made of a light-  
30 transmissive material.

101. A method of providing illumination for an animal collar, comprising:  
providing a light system with a plurality of LEDs and a processor for controlling  
a color of light from the LEDs; and  
5 disposing the light system in connection with the animal collar.
102. A method of claim 101, wherein the animal collar is provided with a light-  
transmissive material.
- 10 103. An illuminated animal collar, comprising:  
a collar; and  
a light system with a plurality of LEDs and a processor for controlling a color of  
light from the LEDs to light at least one of a portion of the collar.
- 15 104. A collar of claim 103, wherein the collar is made of a light-transmissive material.
105. A method of providing illumination for a chemical, comprising:  
providing a light system with a plurality of LEDs and a processor for controlling  
a color of light from the LEDs; and  
20 lighting the chemical with the light system, wherein the light interacts with the  
chemical to create an effect.
106. A method of claim 105, wherein the effect is generated by a luminescent facility  
of the chemical.
- 25 107. A method of claim 105, wherein the effect is used to confirm that a chemical has  
been applied over a given surface.
108. A method of claim 105, wherein the chemical is at least one of an insect  
30 repellant, a deck sealer, a lotion, a medicine and a suntan lotion.

109. An illumination system for a chemical, comprising:  
a light system with a plurality of LEDs and a processor for controlling a color of  
light from the LEDs; and  
5 a chemical, wherein the light interacts with the chemical to create an effect.
110. A system of claim 109, wherein the effect is generated by a luminescent facility  
of the chemical.
- 10 111. A system of claim 109, wherein the effect is used to confirm that a chemical has  
been applied over a given surface.
112. A system of claim 109, wherein the chemical is at least one of an insect repellant,  
a deck sealer, a lotion, a medicine and a suntan lotion.  
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113. A method of providing illumination and scent, comprising:  
providing a light system with a plurality of LEDs and a processor for controlling  
a color of light from the LEDs; and  
providing a scent-producing facility for producing coordinated illumination and  
20 scent.
114. A method of claim 113, wherein coordination is by a network.
115. A method of claim 113, wherein the scent-producing facility is an air freshener.  
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116. A method of claim 113, wherein the scent is correlated with illumination that  
reflects at least one of a similar aesthetic condition, an emotional state, an environmental  
condition, and a data item.
- 30 117. A system for providing illumination and scent, comprising:

a light system with a plurality of LEDs and a processor for controlling a color of light from the LEDs; and

a scent-producing facility for producing coordinated illumination and scent.

5 118. A system of claim 117, wherein coordination is by a network.

119. A system of claim 117, wherein the scent-producing facility is an air freshener.

120. A system of claim 117, wherein the scent is correlated with illumination that  
10 reflects at least one of a similar aesthetic condition, an emotional state, an environmental condition, and a data item.

121. A method of illuminating a fluid household product, comprising:  
providing a container for the fluid household product;  
15 providing a light system in operative connection with the container, the light system comprising a light and a processor and being capable of producing illumination of a plurality of colors under control of the processor; and  
illuminating the fluid using the light system.

20 122. A method of claim 121, wherein the light system illuminates a spray of fluid coming from the container.

123. A method of claim 121, wherein the container is transparent and the light system illuminates fluid in the container.

25 124. A method of claim 121, wherein the light system lights a package for the container.

125. A system for illuminating a fluid household product, comprising:  
30 a container for the fluid household product;

a light system in operative connection with the container, the light system comprising a light and a processor and being capable of producing illumination of a plurality of colors under control of the processor; and  
wherein the light system illuminates the fluid.

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126. A system of claim 125, wherein the light system illuminates a spray of fluid coming from the container.

127. A system of claim 125, wherein the container is transparent and the light system  
10 illuminates fluid in the container.

128. A system of claim 125, wherein the light system lights a package for the container.